UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
TAYONG, HELENE E

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/533,711	BIRRU, DAGNACHEW
	Examiner	Art Unit	
	HELENE TAYONG	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 May 2010</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-4,6-14 and 16-22</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-4,6-14,16-22</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed on 5/20/10..

Claims 1-4,6-14 and 16-22 are pending in this application and have been considered

below.

Response to Arguments

2.   Applicants arguments regarding the rejection of Claims 1-4,6-14 and 16-18 and

21-22 are rejected under 35 U.S.C. 103(a) as being obvious over Strolle et al (US

20040057535) have been considered but are moot in view of the new ground(s) of

rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-4,6-14,16-18 and 21-22 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Strolle et al (US 20040057535) in view of Rosenberg (US 5884064).

(1)   with regards to claims 1 and11;

Strolle et al discloses in (fig. 1) a system for multiplexed transmission of normal

and robust digital video data (page 3, [0059]-[0060]), comprising:

a multiplexer switching (fig. 2, 20) between normal and robust data inputs (page

3, [0062]);

one or more unit (fig. 2, 22) randomizing, formatting, interleaving and encoding data from the normal and robust data inputs into encoded data packets (page 7, [0087]); and

processing (fig. 2, 26) the encoded data packets by deinterleaving the encoded data packets, and derandomizing a remaining portion of each encoded data packet(page 7, [0088]-[0090]).

Strolle et al discloses all of the subject matter discussed above, but for specifically teaching **wherein removing a trailing portion from each encoded packet includes removing parity bytes when an encoded packet includes normal data supplied from the normal data input, and includes removing encoded digital information bytes when an encoded packet includes robust data from the robust data input.**

However, Rosenberg disclose a VP emulator in fig.2, 201 that processes 432 bytes in a conventional manner and then removes the aforementioned eight bytes trailer to form a 424 byte block. VP emulator 201 then partitions the 424 bytes block into the original eight byte cells and presents the cell in turn to associated switch 51 for routing to LAN31 and/or PBX 36, col.3, lines 2-10).

It would have been obvious to one of ordinary skill in the art to have utilized the method as known methods of **removing parity bytes** as taught by Rosenberg in the system of Strolle in a manner as claimed in this application for the benefit of maintaining data or information integrity across communication devices or system.

(2)   with regards to claims 2 and 12;

Strolle et al further discloses wherein the multiplexer (fig. 2, 20), the one or more

Units (fig.2, 22, page 7, [0087]), and the processing unit (26) form a portion of an

enhanced vestigial sideband (VSB) encoder (10A), the one unit or more units further

comprising Reed Solomon encoder operating in sequence data from the multiplexer to

generate the encoded data packets (page 7, [0087]).

(3)   with regards to claims 3 and 13;

Strolle et al further discloses a parity byte generator (RS encoder) operating in

conjunction with the trellis encoder to generate parity bytes for normal data switched by

the multiplexer (fig. 2, page 7, [0087]).

(4)   with regards to claims 4 and 14;

Strolle et al further discloses wherein the processing unit (fig. 2, 26) removes the

trailing portion equal (all input packets) to a number of bytes required to form Motion

Picture Expert Group (MPEG) compliant packets (page 7, [0088]).

(5)   with regards to claims 6 and 16;

Strolle et al further discloses wherein the processing unit (fig. 2, 26) further

comprises:

a bit-to-byte converter and trellis deinterleaver (The Trellis code deinterleaver)

and a main deinterleaver (convolutional deinterleaver) operating sequentially on data

packets received from the one or more units (fig. 2, 22, page 7, [0087]); and

a derandomizer operating on data packets after removal of the trailing portion (
fig. 2, 26, [0088]).

(6)   with regards to claims 7, 17, 21 and 22

Strolle et al further discloses wherein the processing unit (26) forwards packets
generated by the enhanced vestigial sideband encoder (22) to a standard vestigial
sideband modulator (28) (fig.2, page 7, [0087]-[0088]).

(7)   with regards to claims 8 and 18;

Strolle et al further discloses wherein the standard vestigial sideband modulator
(fig. 1, 10, dif. 2, 28) further comprises:

a data randomizer, a Reed Solomon encoder, an interleaver and a trellis encoder
operating sequentially on data packets received from the enhanced vestigial sideband
encoder(fig.2, and page 7, [0078]);

a multiplexer switching (20) data packets generated by the standard vestigial
sideband modulator with synchronization signals (fig. 2, input to 26, frame sync); and

an antenna transmitting signals (implicitly disclosed at output from fig. 1, 11 and
received at 12, and fig. 3) corresponding to the switched data packets and
synchronization signals (page 3, [0059]-[0060]).

(8)   with regards to claim 9;

Strolle et al further discloses a data link (fig. 1, input to 10) coupling the enhanced vestigial sideband encoder (Robust encoder) and the standard vestigial sideband modulator (8VSB Modulator)(10), wherein the antenna transmits (implicitly disclosed , 11) , the signals over a wireless communications channel (12) to a receiver (13,14) (page 3, [0059]-[0060]).

(9)   with regards to claim 10;

Strolle et al further discloses wherein the enhanced Vestigial sideband encoder is implemented within a studio and the standard vestigial sideband modulator is implemented with a transmitter (figs 1 and 2).

5.   Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strolle et al (US 20040057535) in view of Rosenberg (US 5884064) and further in view of Choi et al (US 7430251)

(1)   with regards to claim 19;

Strolle et al discloses a system (fig.1) for multiplexed transmission of normal and robust digital video data (input to 10), comprising:

an enhanced vestigial sideband (VSB) encoder (fig. 2, 10A) having normal and robust data inputs and including:

a multiplexer switching (20) between the normal and robust data inputs;

a data randomizer, a Reed Solomon encoder, an interleaver and packet formatter, a main interleaver and a trellis encoder each operating in sequence on data

from the multiplexer to randomize, format, interleave and encode data from the
multiplexer and generate the encoded data packets (fig. 2, 22 and page 7, [0087]); and

a processing unit (26) deinterleaving encoded data packets produced by the data
randomizer, Reed Solomon encoder, interleaver and packet formatter, main interleaver
and trellis encoder, removing a trailing portion from each encoded data packet, and
derandomizing a remaining portion of each encoded data packet (page 7, [0088]); and

a standard vestigial sideband modulator (fig. 1, 10, fig. 2, 28) receiving data
packets from the enhanced vestigial sideband encoder (10A) and including:

Strolle et al discloses all of the subject matter discussed above, but for explicitly
teaching

(a) **wherein removing a trailing portion from each encoded packet includes
removing parity bytes when an encoded packet includes normal data supplied
from the normal data input, and includes removing encoded digital information
bytes when an encoded packet includes robust data from the robust data input.**

(b) a data randomizer, a Reed Solomon encoder, an interleaver and a trellis
encoder operating sequentially on data packets received from the enhanced vestigial
sideband encoder; a multiplexer switching data packets generated by the data
randomizer, Reed Solomon encoder, interleaver and trellis encoder with
synchronization signals; and an antenna transmitting signals corresponding to the
switched data packets and synchronization signals .

(i) with regards to item (a) above;

However, Rosenberg disclose a VP emulator in fig.2, 201 that processes 432

bytes in a conventional manner and then removes the aforementioned eight bytes trailer

to form a 424 byte block. VP emulator 201 then partitions the 424 bytes block into the

original eight byte cells and presents the cell in turn to associated switch 51 for routing

to LAN31 and/or PBX 36, col.3, lines 2-10).

It would have been obvious to one of ordinary skill in the art to have utilized the

method as known methods of removing parity bytes as taught by Rosenberg in the

system of Strolle in a manner as claimed in this application for the benefit of maintaining

data or information integrity across communication devices or system.

(ii) with regard to item (b) above;

Strolle et al discloses a pre-processing and post processing (fig. 2, 24 and 25,

fig. 3, 314. The post processing performs reed-solomon (184-164) decoding (page 8,

[0100]).

However, Choi et al, in the same endeavor (VSB transmission/reception system)

discloses in (fig. 1) a conventional VSB transmission system that includes a data

randomizer, a Reed Solomon encoder, an interleaver and a trellis encoder operating

sequentially on data packets received from the enhanced vestigial sideband encoder; a

multiplexer switching data packets generated by the data randomizer, Reed Solomon

encoder, interleaver and trellis encoder with synchronization signals; and an antenna

transmitting signals corresponding to the switched data packets and synchronization

signals (col.1, 38-49 and col.5, lines 66-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the system as taught by Choi et al, in the system of Strolle as modified by Rosenberg in a manner as claimed in this application, for the benefit of robust noise transmission system.

(2)   with regards to claim 20;

Strolle et al further discloses wherein the enhanced Vestigial sideband encoder is implemented within a studio and the standard vestigial sideband modulator is implemented with a transmitter (figs 1 and 2).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee (US 5619269) discloses Frame sync signal for digital transmission system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the P/Shuwang Liu/

     Supervisory Patent Examiner, Art Unit 2611AIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the

automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-

1000.

/Helene Tayong/
Examiner, Art Unit 2611

July 28, 2010

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611